Proposal #2001 - E213 (Office Use Only)

PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: ***Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement***

Applicant Name: Ducks Unlimited. Inc.
Contact Name: Olen Zirkle, Land and Water Specialist
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Amount of funding requested: $ 17,289,673
Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.

State cost: (to be determined) Federal cost: (to be determined)

Cost share partners? N/A **Yes** N/A **No**
Identify partners and amount contributed by each _____

Indicate the Topic for which you are applying (check only one).

___ Natural Flow Regimes
___ Nonnative Invasive Species
___ Channel Dynamics/Sediment Transport
___ Flood Management
__X__ Shallow Water Tidal/Marsh Habitat
___ Contaminants
___ Beyond the Riparian Corridor
___ Local Watershed Stewardship
___ Environmental Education
___ Special Status Species Surveys and Studies
___ Fishery Monitoring, Assessment and Research
___ Fish Screens

What country or counties is the project located in? San Joaquin County

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible.

Sacramento – San Joaauin Delta: 1.4. (Central and West Delta)

Indicate the type of applicant (check only one):

___ State agency
__X__ Public/Non-profit joint venture
___ Local government/district
___ University
___ Other: _____
___ Federal agency
___ Non-profit
___ Tribes
___ Private party

Attachment **H**

Indicate the primary species which the proposal addresses (check all that apply):

___ San Joaquin and East-side Delta tributaries fall-run chinook salmon
___ Winter-run chinook salmon
___ Late-fall run chinook salmon
__X__ Delta smelt
__X__ Splittail
___ Green sturgeon
___ White Sturgeon
__X__ Waterfowl and Shorebirds
__X__ Migratory birds
___ Other listed T/E species:_____
___ Spring-run chinook salmon
___ Fall-run chinook salmon
___ Longfin smelt
___ Steelhead trout
__X__ Striped bass
__X__ All chinook species
__X__ All anadromous salmonids
___ American shad

Indicate the type of project (check only one):

___ Research/Monitoring
__X__ Pilot/Demo Project
___ Full-scale Implementation
___ Watershed Planning
___ Education

Is this a next-phase **of** an ongoing project? Yes ___ No __X__

Have you received funding from CALFED before? Yes __X__ No ___
If yes, list project title and CALFED number:

Project Name:	**CALFED** Numbers:
Lower Butte Creek Project: Phase II – Preliminary Engineerine and Environmental Analysis for Butte Sink Structural Modifications and Flow-through System	99-BO2
Gorrill Dam Fish Screen	96-M22
M & T/Parrott, Pumping Station and Fish Screen	95-M05
Rancho Esquon/Adamas Dam Fish Screen	96-M21
San Pablo Bay NWR, Cullinan Ranch	97-N18
San Pablo Bay NWR, Tolay Creek	97-N19

Have you received funding from CVPIA before? Yes __X__ No ___
If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable):

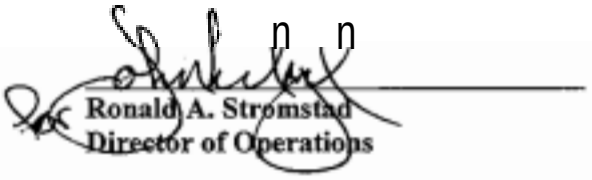
Project Name:	**CWIA** Number:
Lower Butte Creek Project, Phase III – Butte Creek, Drumheller Exclusion Barrier Final Engineering, Permitting and Construction	1448-11332-9J006
Lower Butte Creek Project. Phase II – Butte Creek, Butte Sink/Sutter Bypass Stakeholder Coordination/Facilitation	113329-9-J135
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass East-West Diversion Dam Preliminary Engineering and Environmental Review	113329-9-J122
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass Weir #5 Preliminary Engineering and Environmental Review	11332-9-J122
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass Weir #3 Preliminary Engineering and Environmental Review	113329-9-5136

Attachment H

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity of organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Ducks Unlimited, Inc.
Name of Applicant



Ronald A. Stromstad
Director of Operations

B. Executive Summary.

Title of Project: Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement

Requested Amount: $17,289,613

Applicant: *DUCKS UNLIMITED, INC.*
3074 Gold Canal Drive
Rancho Cordova, CA 95670-6116

Olen Zirkle, Land and Water Specialist
Phone: (916) 852-2000 FAX: (916) 852-2200
e-mail: ozirkle@ducks.org

Participants/Collaborators: *DUCKS UNLIMITED, INC.,* Reclamation District 2118, and Marc Frelier & Francine Mandeville-Frelier, landowners.

Project Summary: This project is designed to establish a pilot/demonstration restoration project on a subsided Delta island. This privately-owned island will provide a "field lab" setting to implement, test and monitor various techniques and incentives applied to the following: (1) Restore the island to shallow water tidal and seasonal wetlands for ecosystem benefits and recreational use; (2) Recover the submerged subsided island by restoring a portion of existing levees to prescribed standards using traditional methods and by constructing set-back levees and utilizing pre-existing levees as a broad submerged bench to increase shaded riverine aquatic habitat; (3) Increase wetted perimeter and sub-tidal areas by constructing mid-channel shoals; (4) Monitor changes in physical conditions, vegetative cover and utilization by fish and wildlife for all created and enhanced habitats; (5) Compare species utilization to other Delta islands in both natural habitat and agricultural production; and (6) Document all costs associated with project to analyze and evaluate ecosystem benefits attributable to alternative restoration techniques compared to current standard restoration activities. The project is effectively implementing three CALFED Ecosystem Restoration Program Goals: At-risk Species, Ecosystem Processes and Biotic Communities, and Habitats. It also contributes to the Program Objective of Levee System Integrity, and to the fish and wildlife priorities of the CVPIA.

Location: The project is located on Little Mandeville Island in the Sacramento-San Joaquin Delta in the Central/West Delta Ecological Management Unit.

Type and Objective of Project: This project is a Delta Levee and Shallow Wetland Habitat Demonstration Project. The objective is to obtain a clear understanding of how the Delta ecosystem responds to multiple restoration activities and adaptive management decisions that are focused on implementation of standard levee and bio-technical levee construction and enhancement, creation of submerged levee benches, mid-channel shoals, and shallow wetland habitats. The project will also provide valuable quantitative data to formulate cost comparisons and feasibility of future ecosystem-restoration management options and landowner incentives that may be applied elsewhere in the Delta.

Approach: (1) Establish a baseline of current conditions and establish the cost of restoring Little Mandeville Island to tidal marsh and seasonal flooded wetlands. Monitor waterbird usage before and after restoration. Compare fish usage of controlled tidal flooding vs. nearby full breach tidal areas; evaluate environmental benefits of this strategy; and, (2) Field test various habitat enhancement techniques on exterior levees and surrounding shoals to increase aquatic and wildlife values. Compare fish usage before and after biotechnical levee enhancements. Evaluate if such improvements and landowner incentives can reduce the cost of long-term maintenance compared to levees restored to current PL 84-99 standards. (3) Compare water usage and evapotranspiration on seasonal wetlands and farm fields.

Hypothesis: Is it possible to recover a submerged Delta island at a reasonable cost by restoring it to shallow wetlands (tidal/seasonal) that will increase usage by both aquatic and terrestrial species compared to other traditional activities conducted on islands within the Delta.

Uncertainties: (1) Whether restoration of shallow-water tidal and seasonal wetland habitat will increase populations of interest; (2) Whether alternative levee construction and maintenance techniques that provide ecosystem benefits will result in increased usage by at-risk and species of concern; ***(3)*** It is not clear how water use on seasonal wetlands is impacted by vegetative evapo-transpiration, management operations and plant community composition.

Expected Outcome: **A** working model of restoration techniques to restore a submerged Delta island to shallow tidal freshwater marsh, riparian/shaded riverine aquatic, seasonal wetland and mid-channel shoals by implementing science-based adaptive management techniques that will promote enhancement and stability of a self-sustaining ecological zone.

C. Project Description.

1. Statement **of** the Problem

a. Problem: At least 80% of the undiked tidal marsh in the Sacramento-San Joaquin Delta has been lost (Nichols et al 1986, Lewis 1992). This is the major nursery area for Central Valley chinook salmon stocks (Myers et al. 1999), and provides critical habitat for other at-risk species. There is insufficient data on development, restoration and utilization of tidal marsh and other shallow wetland habitat types in the Sacramento-San Joaquin Delta.

b. Conceptual Model: The proposed project will test the feasibility of restoring a submerged Delta island to a diverse mosaic of shallow wetland habitats. The project will rehabilitate and bio-technically enhance levees, and restore subsided tidal areas to increase the amount of shallow water wetland habitats. Four key wetland habitats will be expanded: shallow tidal freshwater marsh, riparian forest and shaded riverine aquatic, seasonal wetland, and mid-channel shoals. The restored wetlands will provide rearing and through-migration habitat for at-risk fish species, especially Delta smelt and chinook salmon. The seasonal wetlands will be managed for wintering and resident waterfowl, and other migratory birds. Fish and wildlife usage of the restored habitats will be monitored, and that data will be used to refine and optimize the habitat management strategies. The habitat will be protected in perpetuity by conservation easements, and financially sustained by revenue from landowner'incentives and controlled recreational access. (See Attachment B – Conceptual Model)

c. Hypotheses being tested:

- Is it possible to recover and maintain a submerged Delta island at a reasonable cost by restoring it to shallow water wetlands (tidal/seasonal) that will increase the pattern of use by both aquatic and terrestrial species compared to other traditional activities conducted on islands within the Delta.
- Levee reconstruction and maintenance can be accomplished in a manner which not only avoids conflicts with management of terrestrial and aquatic on an around levees but in a manner that actually benefits those resources.
- The amount of water used for seasonal wetland management is not significantly different from agricultural operations in the Delta.
- **A** private leveed island restored to beneficial Delta habitats can generate sufficient management income using existing landowner incentives, i.e., conservation easements in combination with a controlled-use recreational program.
- The controlled tidal marsh created will have similar benefits for fisheries and wildlife and a full tidal shallow water marsh.
- It is possible to eliminate existing exotic vegetation (Arundo) and to prevent them from becoming reestablished and thus competing with desired native vegetation.
- The manageable size of this island allows the field testing and documenting of costs and techniques related to the rehabilitation of a submerged Delta island.

d. Adaptive Management: Restoration of wetland vegetation can be achieved either by facilitating natural recolonization, or by planting efforts. Where feasible, natural recolonization is cheaper and results in more locally adapted and genetically diverse habitat. This is the approach selected by several current projects in **San** Pablo Bay, such as the restoration of Guadalcanal Village (Wetlands Research Associates et al. 2000), but see Bradley (2000). Natural recolonization will be monitored in experimental plots, and if performance standards are not attained, then a supplemental planting regime will be employed. Management of exotic plants will also be employed; if eradication of Arundo is not achieved in 5 years, more aggressive techniques will be employed.

. The timing of water diversions differs for seasonal wetland management as compared to row crop farming. It is not known if entrainment during fall flood-up is a significant problem in the West Central Delta. Thus, the necessity of screens for fall siphon use is unknown. Entrainment will be monitored at an unscreened siphon, and compared to an agricultural siphon on a nearby island. Minimal entrainment of at-risk fish species is predicted, since peak abundance is in June (RTM program), and siphon usage will not start until September. If entrainment is significant, then a screen can be retrofitted.

Seasonal wetland habitat management protocols are well established for the Central Valley of California (Smith et al. 1994) and other regions of the US (Fredrickson and Reid 1990). Because of site-specific variation, and year-to year climatological variation, adaptive management will be an integral component of seasonal wetland management on Little Mandeville Island. Timing and depth of flooding will be optimized for the benefit of waterfowl and shorebirds, and modified as necessary to reflect weather conditions. Water and waterbird usage will be monitored and compared to agricultural fields on nearby islands. This will help establish whether conversion of agricultural fields to seasonal wetlands results in net gains for waterbirds.

Subsidence and settling of new levees are known problems on the peat soils in the study area. Settling and compaction of the restored levees, islands, and shoals will be monitored using survey grade differential GPS equipment. If settling and compaction is sufficient to reduce the geo-technical and/or ecological function of a site, then additional material will be imported.

Fish usage of the controlled tidal wetland will be closely monitored, and compared to full breach tidal restoration sites to determine if the pipe/gate structure restricts habitat accessibility for at-risk fish species. If, once the habitat is established, this is found to be the case, then the water control structures will be removed and converted to full breaches. This would necessitate public acquisition of the tidal habitat. Thus, even the ownership of the island will be subject to adaptive management; if private property rights cannot be maintained on controlled tidal marsh portion of island, then land will be sold in fee-title to a public agency.

***e*. Educational Objectives:** Education of other professionals in the field of restoration biology, for this reason, funds are included in this proposal for the Project Biologist and Fisheries Biologist to travel to professional conferences, including the CALFED Science Conference, to share the experiences gained from this project. As a demonstration project, the LMI project will function to educate other organizations and agencies who may be considering the restoration of some of the other submerged islands in the Delta, such as Franks Tract. Funding is also included for one graduate student for a three year period, who will be an important part of the fisheries monitoring team. It is anticipated that the fisheries monitoring work would comprise part of the student's thesis work.

2. Proposed Scope of Work

a. Location and/or Geographic Boundaries of the Project: The project will be focused on Little Mandeville Island (LMI). Some monitoring activity will occur on other nearby islands to collect comparative data. LMI is located at 38°1'N and 121°34'W, in the west central region of the Sacramento-San Joaquin Delta (for aerial photo and site map see Attachment A). LMI is located adjacent to the Contra Costa/San Joaquin County boundary, but the island is located entirely within San Joaquin County. The island is bounded to the west by Sheep Slough, to the north by Old River, to the southeast by Connect Slough (aka Connection Slough), and to the west by a dredger cut. LMI is surrounded by other islands, including Holland Tract to the west, Quimby Island to the north, Mandeville Island to the east, Bacon Island to the southwest, and Rhode Island to the southwest. The nearest government landholding is Franks Tract State Recreation Area (Calif. Dept. of Parks and Recreation), which is approximately 2km to the northwest. (See Attachment A – Map and Photos)

b. Approach: The Little Mandeville Island Project is a cooperative venture that brings together a private landowner, reclamation district and a conservation organization, to design and implement levee and habitat upgrades on a submerged island located in the West Central Delta. The integrity of the island's levee system

will be restored, and the interior of the island converted to shallow wetland habitat. The wetland habitat will be protected in perpetuity though the purchase of a conservation easement.

The project is in its first of three phases. Phase I includes acquisition of a conservation easement, conceptual design, final design, permitting, and construction, as well as a comprehensive monitoring and adaptive management program. Reclamation District 2118 will **be** the lead agency for environmental permitting and construction. Ducks Unlimited, Inc. will provide the financial management for the process including project management, monitoring and reporting. Wetlands America Trust, an affiliate of Ducks Unlimited, Inc., will hold the conservation easement. Ducks Unlimited, Inc. will monitor the property to ensure compliance with the terms of the easement.

c. Monitoring and Assessment Plans:

Tidal Habitat: Hydrology, and Community Ecology of Invertebrates and Fishes

The hydrology of the controlled tidal access habitat will be carefully monitored for both water stage (level) and water quality. This data will be used to determine suitability of habitat for delta smelt and other native at-risk fish species. Dataloggers will be installed at the tidal access culverts, both inside and outside the levees. Dataloggers will measure salinity, temperature, dissolved oxygen, etc. Control site will be a nearby full breach tidal restoration site. Both water quality and fish usage of the controlled tidal habitat will be compared to the full breach site. If usage of the tidal habitat is deemed inferior, the option of fully breaching the levees will be considered. **A** baseline fish usage study will be conducted in the submerged portion of the island and along exterior levees using boat electro-shocking. In the first year, both diurnal and nocturnal sampling will be conducted to determine the most effective technique.

The created controlled tidal habitat will also be monitored for colonization by aquatic invertebrates and usage by native fish species. Qualitative invertebrate data will be obtained from substrate samples (Ekman dredge grab samples). Substrate samples will be taken monthly along a transect which includes a range of water depths. Fisheries usage data will be collected using the protocol of the 'University of Washington/CALFED Sacramento-San Joaquin Delta Breached Levee Wetland Study.' Monthly sampling of the controlled tidal marsh will be performed using four methods: block-net enclosure with beach seine depletion, purse seine, plankton net, and light trap. Fish usage of the shaded riverine aquatic habitat along the levees will be sampled using a boat electroshocker. Single pass transect surveys will be used to establish an abundance index. Transects will be 100 meters in length. Multiple transects will be established along different types of levee habitat (with and without vegetation and benches). Both invertebrate and fish diversity will be enumerated for each month. The accumulation of species will be used to generate a colonization curve. Diversity data will be compared to open channel habitat, and a tidal marsh that has been restored using levee breaches.

Plant Ecology

Annual ground surveys of vegetation will be used to describe species composition and plant density in seasonal, riparian, and tidal habitats. Species lists will be assembled for each habitat type. **A** baseline survey of existing riparian forest habitat will be performed at the outset of the monitoring program. The relative abundance of native and non-native plant species will be determined, the % cover, and the dimensions of the canopy.

Evapotranspiration will be measured ***in situ*** using either the eddy correlation or the Bowen ratio method (Bidlake et al. 1993; German 2000). Preliminary investigation suggests that the eddy correlation method will be better suited to this site (David Stannard, USGS, pers. comm.). Three evapotranspiration monitoring stations will be deployed, one each in seasonal wetland on Little Mandeville, a cornfield on a nearby island, and a tomato field. Evapotranspiration will be measured every 30 minutes on a year-round basis. Data will be uploaded to a monitoring station via cellular phone modem.

Aerial Photos

Aerial photo surveys will be used to measure the changes in habitat quantity and type. 'The total acreage of each vegetation category will be measured seasonal wetland, riparian, shallow tidal, and mid-channel shoal. These aerial surveys will also be able to track changes in plant cover between years. A baseline survey will be flown in 2001 before any construction or habitat management is performed. The second survey will be flown after the levees have been repaired, and the island has been drained. The third survey, will be performed post-construction. Annual flights will be performed thereafter.

Avian and Turtle Usage

Avian usage will be monitored on the entire island using standardized visual count techniques used in San Pablo Bay wetland monitoring program (Takekawa et al. 1999). Island will be divided into quadrats, each of which contains only one habitat type: riparian, seasonal wetland, tidal wetland, and midchannel shoal. Quadrats will be counted monthly, from fixed, marked stations (on levees), using tripod-mounted spotting scopes and binoculars. Species lists and abundance will be generated for each habitat type. Bird and turtle usage of the exterior levee habitat and mid-channel shoals will be measured by a monthly boat survey that circumnavigates the island.

Subsidence and Elevational Monitoring

After the design and construction phases are complete, monitoring points will be established using a survey grade global positioning system (GPS). Location and elevation will be recorded for sites along the levees, on the constructed tidal islands, and in both the seasonal and tidal wetland areas. Additional survey points will be established on other islands in the vicinity of Little Mandeville Island. Sites will be selected that are being managed for purposes other than wetland habitat (agriculture and flood control). This will allow direct comparisons of rates of subsidence for each land usage. After the points are established they will be monitored at regular intervals (quarterly for the first year and annually thereafter), and the data recorded. A report will be furnished detailing the rate of subsidence and the extent of settling by the constructed islands and levees comparisons.

d. Data Handling and Storage – Project electronic data will be handled and stored on a secure network and compiled on CD ROM at the Ducks Unlimited, Inc. Western Regional Office. All pertinent information gathered, evaluated and applied to the project will be digitized to current acceptable standards and presented to CALFED in the form of a CD ROM.

e. **Expected Products/Outcomes** -

- A 375-acre submerged island will be restored in a manner that provides over 300 acres of shallow water tidal and seasonal wetlands.
- The levees (which comprise a significant portion of the remainder of the island) will be enhanced for wildlife and fisheries benefits.
- The overall project will create a functional field laboratory in which the outcomes of habitat and levee restoration can be observed and monitored for the long-term.
- The location of the field-lab project becomes a point of comparison to other islands with natural and restored habitats and productive agricultural lands within the ecological zone.
- Existing exotics such as Arundo will be eradicated and to maximum extent possible kept out of the island until re-colonization of desired vegetation has occurred.
- Quantity and timing of water usage for seasonal wetlands will be documented. This data will assist in quantifying applied water requirements for seasonal wetlands in order to better understand the impact of converting agricultural lands to habitat areas.

f. Work **Schedule** - The restoration of Little Mandeville Island is a multi-year/multi-phase project to restore a flooded island to a combination of tidal wetlands and seasonal wetlands. Imbedded in the work schedule are four major restoration projects, which are described in a detailed work schedule included as Attachment C.

The restoration projects are: 1) restore the exterior levees to Reclamation Board standards for the portion of the island encompassing the seasonal wetland; 2) Convert the internal acreage to a combination of tidal wetlands and seasonal wetlands; 3) Create habitat outside the levee with the construction of mid-channel shoals, and; 4) Complete structural modifications and fisheries upgrades to the island's water delivery system. During the timeframe of this phase of the project, the levees will be upgraded, the internal habitat work will be completed, a physical, biological, and economic monitoring program will be established, and the mid-channel shoals will be designed and ready for construction. Phase Two of the project (April 2004 – March 2007) will complete the mid-channel shoals, continue the physical, environmental and economic monitoring and make adaptive management changes to the project. The main scheduled tasks to accomplish the restoration are:

Task 1 -Assess existing conditions: Inspect and assess the existing levees, water control structures and habitat and report on findings. Set up an cost tracking system to document the cost of resotoraton.
Deliverable; Existing Conditions Report; Cost tracking database.
Timefrume: April 1, 2001 to August 31,2002
(cost-tracking ongoing for remainder of project)

Task 2 –Preliminary design and planning: Upgrade the current survey; Complete the preliminary design and environmental compliance documentation for construction of the exterior levee upgrades, construction of the interior levee and seasonal and tidal wetland enhancements and the mid-channel shoals; Complete the design of water delivery system modifications and fisheries upgrades; Complete a conceptual design for controlled recreational use areas.
Deliverubles: Preliminary designs for the exterior levees, interior levee and habitat restoration, water control structures and fisheries upgrades and mid-channel shoals; Conceptual designs for the controlled recreational use area; Environmental compliance documents where identified
Timeframes: April 1,2001 to March 31,2002

Task 3 –Engineering, final design, permitting and environmental documentation: Complete engineering, final design, permitting and environmental documentation for all exterior levee upgrades, interior levee and seasonal habitat enhancements, water delivery system and fisheries upgrades.
Deliverables: Engineering plans and specifications for on all exterior levee upgrades, interior levee and habitat enhancements, water control structure and fisheries upgrades, and mid-channel shoals. Final environmental compliance documents where required.
Timeframe: April 1,2001 to September 30, 2003

Task 4 –Construction: Initiate an exotic plant eradication program; Drain the Island; Complete the bidders package for scheduled construction projects and obtain required permits; complete construction on exterior levee upgrades; complete construction on the interior levee and seasonal habitat design features; Complete the construction on the water delivery system modifications and fisheries upgrades.
Deliverables: Upgraded exterior levees, completed interior levee and habitat enhancements and water control structures which meet fish passage requirement.
Timeframe: June 1,2001 to March 31,2004

Task 5 -Monitoring: Monitor water control structures for fish entrainment; Monitor tidal habitat for plant communities, fish use, turtle use and waterbird use; Monitor areal extent and species composition of riparian vegetation; Monitor plant colonization of seasonal wetland; Monitor water and land surface for transpiration and soil subsidence.
Deliverubles: Preliminary monitoring reports on an annual basis; final monitoring report by September 30, 2004
Timeframe; April 1,2001 to March 31,2004
(additional six months after project ends to prepare final report)

Task *6* -Easement Work: Develop the framework, finalize the acreage and configuration of the proposed easement; Complete appraisal, due diligence and negotiate price and terms; Close escrows and record; Monitor compliance with easement terms on an annual basis

Deliverables: Copy of recorded easement document; Copy of baseline documentation report

Timeframe: April 1,2001 to March 31,2002
(Compliance monitoring in perpetuity)

Task **7** – Project Management: Inspection of work in progress; validation of costs; Preparation of periodic reports; Supervision of project staff; Preparation of financial reports; Contract compliance and legal work on easement documents.

Deliverables: The Project

Timeframe: April 1,2001 to March 31,2004
(plus time for final monitoring reports)

Implementation of the project can take place incrementally. The project can proceed through assessment and preliminary design and then proceed to final design and construction only after evaluation and approval of conceptual plans. In order to stabilize the island, the levee work (including the construction of an interior cross levee) must be completed. Once the levee work is completed and the island stabilized, then the habitat enhancement work can proceed. One of the alternatives suggested for the project is to apply to USDA/WRP for an easement and funds to complete the seasonal wetland habitat work. This application has already been submitted, however funds are limited and may not be available. Based on the assumption that WRP funds will be available, the tidal wetlands would have the next highest priority for CALFED purposes. Finally, after the island is drained, restored then water has to be re-introduced. The water control structures and fisheries enhancements should then be completed. The mid-channel shoals and habitat work outside of the levees is entirely optional. The current levee system presents an opportunity for this kind of work. If CALFED wants study this type of habitat enhancement, this is an ideal place to do it.

g. Feasibility

Authorities: Project success is strongly supported by single ownership of the project area. Little Mandeville Island is entirely owned and managed by Marc Frelier and his wife, Francine Mandeville-Frelier (see attached landowner authorization and access letter). The restoration activities and the ongoing research components of this project are given full authority by these landowners. Additionally, a conservation easement will be negotiated to protect the conservation and scenic values of the island and purchase the development right to the property in perpetuity.

Little Mandeville Island represents the entire boundaries of Reclamation District 2118. Since the island is within the jurisdiction of a Reclamation District, District 2118 can act as the lead agency . This increases the timeliness and feasibility of conducting project goals and objectives. The project will be consistent with all other plans and programs of other state and federal resource agencies. No constraints are anticipated.

Monitoring: Feasibility of environmental monitoring is excellent due to convenient location of project and monitoring sites supported by technical expertise. The biological monitoring program for this project will rely on current acceptable practices and protocols (i.e., IEP multi-agency monitoring programs) for all necessary data collection and evaluation. Ducks Unlimited, Inc. maintains a qualified and reputable staff of wetland, fisheries, and wildlife biologists to oversee and conduct all monitoring phases of this project. Permits: ESA Consultation. Permit(s) Current Status: No application made at this time. Constraints: Application and approval is anticipated to be conducted in a timely manner.

Technical: The feasibility of completing all habitat restoration and levee construction and repair is supported by a recognized engineering firm with over 30 years of project experience in the Sacramento-San Joaquin Delta. The firm will apply accepted and proven techniques to restore levees to PL84-99 standards and to

conduct alternative habitat enhancements designed for bio-technical levee lengths, mid-channel shoals and inter-tidal islands. Construction materials necessary to complete project tasks are accessible and readily available, i.e., rock, sand and earth materials. Permits: EIR/EIS, CESA Compliance, Streambed alteration permit, CWA§ 401 Certification, CWA§ 404 permit, and ESA Consultation. **Permit(s)** Current Status: No application made at this time. **Agreement(s):** non-applicable. Constraints: Possible constraints on project implementation would result from delay in the permits issued by U.S. Fish & Wildlife Service and National Marine Fisheries Service. Currently the allowable disturbance/construction window for work on levees and wetlands in the Delta is August1 through October 15. Delays in permitting processes have the potential of postponing on-the-ground construction a full year.

D. Applicability to CALFED ERP Goals and Implementation Plan and CVPIA Priorities.

1. i) ERP Goals

GOAL 1: At-Risk Species - It is anticipated that this project will promote recovery of at-risk species and species of concern, and contribute to the reversing of the' downward population trends of non-listed native species, by gathering pertinent data about bow aquatic and terrestrial species respond to the changes of ecosystem functions created through the implementation of habitat restoration and enhancement activities that support higher trophic levels associated with the creation of shallow water, tidal and freshwater marsh habitat.

GOAL 2: Ecosystem Processes and Biotic Communities - This project is expected to rehabilitate natural ecological processes that support natural aquatic and terrestrial biotic communities by restoring and maintaining with minimal intervention shallow water wetlands (tidal and seasonal), improving self-sustaining riverine habitat and by implementing innovative levee construction and repair techniques that will reduce long-term cost and maintenance. On the human side, this project intends to create landowner incentives (Presley Bill, recreation, conservation easement), to achieve long-term private-sector levee and habitat maintenance sustainability.

GOAL 4: Habitats – Little Mandeville Island project represents an opportunity to restore a large expanse of major Delta habitat types. The project intends to rehabilitate existing levees and create new bio-technically enhanced levees making possible the creation of a "mosaic of habitats" that not only have ecological values but aesthetic values that will provide recreational opportunities. This island will be designed to increase recreational opportunities for wildlife observation, fishing, hunting, etc., through utilization of created shallow water wetlands (tidal and seasonal). This project is also designed to create a scientific field lab to provide feedback information concerning freshwater wetland, tidal and riparian processes and functions in the Delta.

ii) CVPIA Priorities: This project addresses priorities/considerations for spring-run, fall-run late fall-run, winter-run chinook salmon, Delta smelt, splittail, waterfowl and shorebirds, migratory birds, and striped bass and their associated habitats in the CVPJA focus area of Butte Creek.

This project will result in progress toward the following **Biological Resource Considerations** for winter-run, spring-fun, fall-run, late fall-run chinook salmon, Delta smelt, Sacramento splittail, waterfowl and shorebirds, migratory birds, and striped bass:

- Addresses the limitations of quality habitat on or around levees due to traditional levee construction and maintenance. A field test of new techniques (see Figures 5-6 CALFED Bay-Delta 1999_)to create a variety of Delta habitat in combination with levee rehabilitation and construction that will meet present day standards.
- Addresses ecosystem, community, multiple-species benefits by creating a mosaic of Delta habitat-types known to be utilized by salmonids, Delta smelt and other resident native fishes, waterfowl, shorebirds, invertebrates, etc., together with vegetative landscapes to increase availability of spawning and rearing habitat for species of special concern and all other Delta species.
- Protects and restores natural habitats by rehabilitating a submerged island to two important natural habitat, i.e., tidal marsh and seasonally flooded wetlands.
- Addresses immediate and long-term benefits by converting a large habitat area from agriculture to habitat within a three-year period of time.

This project will result in progress toward the following **Implementation considerations:**

- The project will be designed to be a continuing operational habitat supported by long-term structure that will provide fish passage and protect against entrainment of fish.
- The project is supported by public/private technical expertise that will ensure that the best known science and technical knowledge will be utilized in accomplishing the goals and objectives of the project.

- The project has complete landowner support and supported by local county government, the Reclamation District and the Delta Protection Commission.
- The project is highly compatible with other plans and programs for fishery restoration and protection.

This project will result in progress in Economic Considerations by addressing the following:

- The outcomes of this project will be provide important cost/benefit information regarding levee construction and repair combined with habitat restoration to assist in establishing a stable funding mechanism for the CALFED planning horizon.
- This project benefits Delta water quality be creating a large natural filtration area (tidal marsh).

2. Relationship to Other Ecosystem Restoration Projects.

Holland Tract, Franks Tract, Sherman, Twitchell, Quimby Islands, and Mandeville Island are all within the same Delta Ecological Zone as Little Mandeville Island. Each is the site of a completed, ongoing, planned, or potential habitat restoration project consistent with CVPIA and/or CALFED habitat goals and objectives. For example, the owner of LMI recently completed a WRP seasonal wetland project on Holland Tract. Franks Tract is a long-submerged Delta Island with significant restoration potential, while DWR has ongoing restoration projects at Sherman and Twitchell Islands. The proximity of Little Mandeville to other restoration projects will help ensure an inter-related mosaic of improved aquatic habitats near the western edge of the Delta. This area is a critical migratory comdor for anadromous fishes, and other at-risk species.

3. Requests for Next-Phase Funding:

Not applicable

4. Previous Recipients **of** CALFED or CVPIA funding.

See Attachment F

5. System-Wide Ecosystem Benefits:

This project will test the economic and technical feasibility of restoring a submerged Delta island to levels that ensure levee integrity, while simultaneously creating habitats that are underrepresented in the Delta. The success of this project would facilitate the restoration of other submerged islands (over 13,000 acres of which were identified by the Delta Protection Commission in a 1998 memo[1]), with a resulting major increase in shallow wetland habitat throughout the Delta.

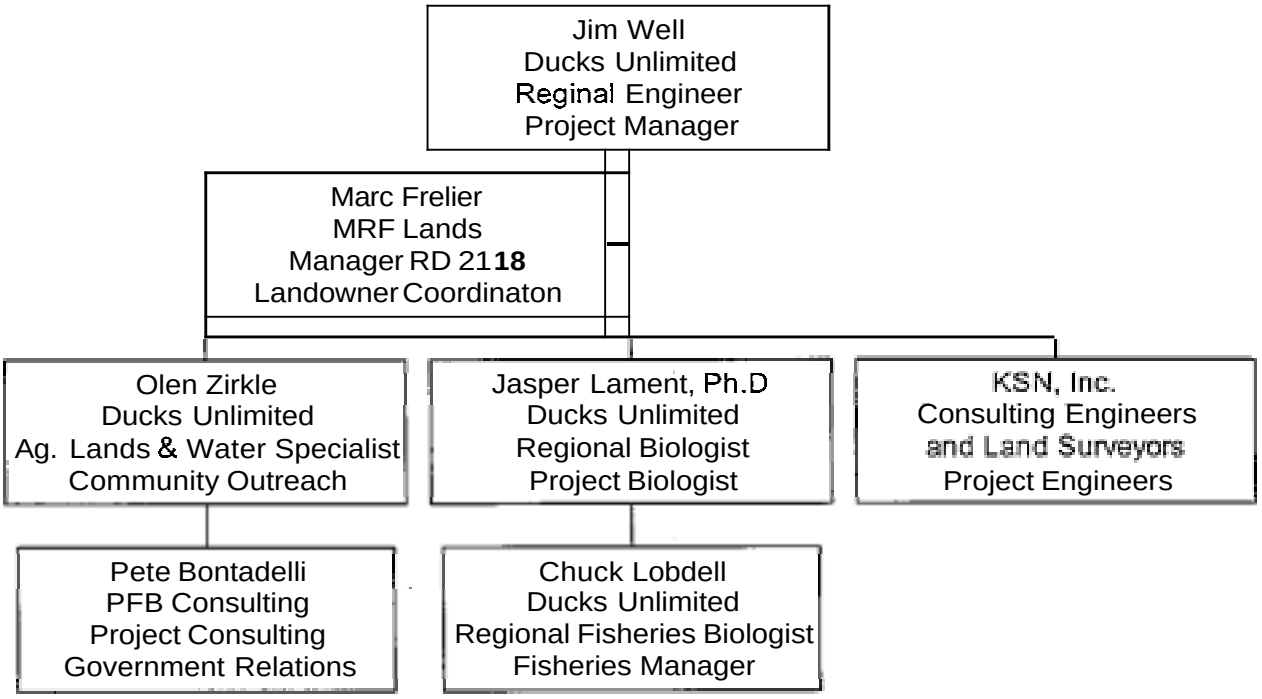
The tidal marsh habitat will provide foraging and rearing habitat for numerous Delta fishes. Delta smelt spawn along the edges of sloughs in the western Delta (Radtke 1966), thus LMI is likely spawning habitat; tree roots (from enhanced riparian vegetation along the levees), and emergent vegetation in the tidal marsh will provide new sites for embryo attachment (Moyle 1976). Both the seasonal and tidal wetlands will increase habitat available to waterfowl, shorebirds, and other migratory birds, as well as plant and mammal species of concern. An increase in shaded riverine aquatic (SRA) habitat will contribute to reducing water temperatures in the Delta, which would increase survivorship of juvenile salmonids migrating through the area. Restoring the island to wetlands will minimize or eliminate future subsidence of the island. The tidal marsh will improve water quality, by providing bio-filtration.

[1] Delta Protection Commission. 1998. Internal memo: 'Alternative Proposal for CALFED Ecosystem Restoration Program in the Delta.' Published on page 3, Appendix H of CALFED Bay-Delta (1999).

E. Qualifications

ORGANIZATION CHART

Little Mandeville Island:
A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement



Name *	Role/Responsibility	Availability	Conflict of Interest	Comment
Jim Well	Engineer/Project Manager	Available as needed as required by Project	None	Ducks Unlimited Employee
Olen Zirkle	Project Oversight/Community Outreach	Available as needed as required by Project	None	Ducks Unlimited Employee
Jasper Lament, Ph.D.	Lead Biologist/ Habitat assessment and monitoring	Available as needed as required by Project	None	Ducks Unlimited Employee
Chuck Lobdell	Fisheries Biologist/ Assess Fish impacts	Available as needed as required by Project	None	Ducks Unlimited Employee
Pete Bontadelli	Government Relations/	Available as needed as required by Project	None	Private Consultant
Marc Frelier	Project Oversight/ Landowner Coordination	Available as needed as required by Project	None	Landowner, RD 2118 Manager
KSN, Inc.	Project Engineers/ Preliminary & Final Design, Construction Mgmt.	Available as needed as required by Project	Some staff members sit on CALFED Tech Committees	RD 2118 Engineers

* Detailed qualifications and contributions listed in Attachment E

F. Cost

1. Budget (Attachment D – Annual and Total Budget)

Salaries: DU's Salaries are divided into three classes: executive, professional, and technician. Pay rate including FICA for each class is as follows:

Executive:	$55.00/hour
Professional:	$35.00/hour
Technician	$24.00/hour

Travel: Travel for project management includes mileage and meals for site visits and meeting attendance. The travel calculations were assumed to be the same for all three years of the project. Travel was calculated at 0.325/mile. Meals and lodging were calculated at $100/day combined, lodging at $60/day and meals at $40/day. Single event meals with no overnight stay were calculated at $10/day.

Supplies and expendables: DU calculates the supplies and expendables category using a flat rate of $18.00/hour. This rate is applied equally across all three classes of employees and includes compensation and fringe benefits for local administrative staff support, direct local office costs, and direct National Headquarters conservation support costs. This rate was calculated using the Direct Allocation Method under federal accounting regulations.

Service Contracts: The main component of the service contract category is the design and construction of the exterior levees, interior levees and tidal habitat mounds. Costs vary so extremely that it is academic to estimate them. For example, the costs of fill material for the levees can vary from $5.00/yard to as much as $20.00/yard. With an estimate of 1.6 million yards for the levees, the resulting total cost of constructing this key project component would vary from $7.5 million to over $18.75 million. Proposed construction costs are based on past history and best available data. Costs for the proposed enhancements will be submitted at the high end of the range with the caveat that if cheaper material is available, it will be used. **Once the project is initiated and the preliminary investigations completed, then more detailed cost and scheduling will be presented to the amendments committee for proposed construction funding.** KSN, Inc. as project engineers has estimated the balance of the planning, design and construction management costs, which are firm. KSN, Inc. is the District Engineer for Reclamation District 2118, and is part of the planning team. Construction projects will be bid using state/federal procedures. The Project will have a component for community outreach, which will be conducted by outside consultants in combination with DU Staff. The biological monitoring will be carried out by a combination of outside consultants and DU staff.

Conservation easement value and cost were estimated based on the difference between the appraised value of the property before and after establishment of the easement. Before value based on agriculture, after value based on tidal and seasonal marsh with recreational uses. Due diligence and closing costs were also included ($14,000).

Equipment: A 20' center console boat with outboard motor, trailer, and safety equipment ($23,600) will be purchased to transport project staff and equipment to and from Little Mandeville Island; this boat will be stored at a nearby marina. All other equipment will be for monitoring purposes only. A four-wheel drive all terrain vehicle ($7,000) will be required for transportation around the dry portion of the island, particularly for elevational and vegetation surveys. Two flat-bottomed 14'jon boats with outboard motors ($5,500 each) will be stationed on the island and used for transportation around the flooded interior of the island (which is not boat accessible from the adjacent sloughs). The riparian vegetation monitoring will require a laser rangefinder ($2,900) for measuring canopy height, calipers, tree tags, measuring tapes, etc. for establishing permanent plots ($320). The evapotranspiration study will require two micrometeorological apparatus ($20,000 each) for each of three sampling sites. The fisheries monitoring program requires an electroshocking boat ($65,000),

water quality dataloggers ($5,000), invertebrate sampling equipment including Ekman grab sampling kit and hand corer ($2,320), a fish measuring board ($160), light trap; block, seine, plankton and dip nets ($5,000). The avian monitoring program will require high quality optics, including binoculars, and high magnification spotting scopes with tripods, and night vision scopes for nocturnal surveys ($7,720). The elevational and subsidence monitoring will require the rental of survey grade differential GPS equipment ($4,000).

Overhead rate: The indirect overhead rate has been approved by the Department of Agriculture with no modifications. The rate, 13.55% may be applied to all costs on the projects (including salary, materials, subcontract charges, etc.). The rate includes information service expenses, office services expenses, meeting and conference expense, government relations expenses and program G&A expenses. Full details of all allowable charges are on file at the Western Regional Office of Ducks Unlimited, Jnc.

Project Management: Project management includes 100 hours of executive oversight, 400 hours of direct supervision, 200 hours of financial reporting, and 200 hours of compliance work per year. Benefits vary per class, but average 20% overall.

2. Cost-Sharing

In-Kind Match:
Landowner has already spent more than $100,000 of his own money repairing the levee breach, and getting the site ready for the proposed restoration.

***Other** Funds:*
As the project develops, all available sources of matching funds will be utilized, including SB 34, and Wetlands Reserve Program (WRP). SB 34 funds may be available to cost-share on the levee improvements. WRP funds may be available to fund a perpetual conservation easement on the seasonal wetland portion of the island. Additional restoration funds may be available **through** WRP to cost-share on the seasonal wetland restoration.

G. Local Involvement

The Little Mandeville Island is a unique opportunity to gain important information relevant to the conflict surrounding levee reconstruction and maintenance with management of terrestrial and aquatic habitat on or around levees. Long-term Levee integrity is essential to the economic and environmental stability of the legal Delta. The Delta Protection Commission is very support of *this* project because the results of the project actions will begin to answer critical questions for Delta landowners and public resource managers.

Ducks Unlimited, Inc. is working closely with the landowners of Little Mandeville Island, Mr. Frelier and his wife, Francine Mandeville-Frelier. Because Little Mandeville Island is a single-ownershipproperty, project implementation is highly feasible. DU plans to evaluate issues of landowner incentives to create a stream of long-term income that sustains levee and habitat repair. By field testing a variety of levee improvements and habitat enhancement, DU hopes to better understand a costs basis for promoting habitat restoration projects on other islands that would not entail land conversion but integration of habitat improvements in areas where agriculture would not be impacted. .This information will provide valuable answers to other landowners, county government and local Reclamation and Flood Control Districts to plan for long-term levee stability and Delta ecosystem restoration.

DU plans to initiate a public outreach effort that will invite the local landowners, representatives from local government, public resource managers and other interested parties to participate in local workshops. Through community assessment and on-the-ground contact, DU will understand how information from this project could be applied in other areas, will pull together issues and concerns and will gather information for future planning efforts by DU, the Delta Protection Commission and CALFED.

Third Party Impacts: None

LITTLE MANDEVILLE ISLAND
P O BOX 1267
HOLLISTER, CA 95024
800-985-2637

May 8,2000

CALFED BAY-DELTA PROGRAM
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Dear Sirs:

I am the landowner of Little Mandeville Island and Trustee of Reclaunation District 2118, the district maintaining the levees around the island. I have actively participated in the preparation of the CAL-FED proposal being submitted by Ducks Unlimited and Reclamation District 2118 to restore the island to natural wetlands and riparian aquatic habitat. I fully support the proposed actions and look forward to participating in the CAL-FED program upon your approval and funding of our project.

I understand that Ducks Unlimited, their consultants and certain project-essential agency personnel will be visiting the island for the purpose of implementing the proposed actions. I hereby grant access for this purpose, upon adequate notice, which will not be unreasonably withheld.

Further, I understand that the project will involve monitoring and I authorize that activity as part of the approved project.

Thank you for your consideration of our proposal.

Sincerely,

Marc R. Frelier

Marc R. Frelier

DUCKS UNLIMITED, INC.
WESTERN REGIONAL OFFICE
3074 Gold Canal Drive
Rancho Cordova, California 95670-6116
(916) 852-2000
(916) 852-2200 Fax

DUCKS UNLIMITED INC.

May 11,2000

San Joaquin County
Clerk of the Board of Supervisors
Courthouse, Room 701
222 East Weber Avenue
Stockton, CA 95202

Madam Clerk

Ducks Unlimited is participating in this year's CALFED Proposal Solicitation Program for Ecosystem Restoration Projects and Programs. As stated in the Solicitation Package, we are required to notify the clerk of the Board of Supervisors of the county in which our project is located and supply a copy of the proposal.

We are pleased to submit a copy of our proposal titled "Delta Levee and Estuarine Habitat Demonstration Project on Little Mandeville Island". This proposal requests funds to set up a pilot demonstration project on Little Mandeville Island to document the costs associated with draining and restoring a previously flooded island to tidal and seasonal wetlands.

If approved, work on final design, environmental compliance documentation and permitting implementation of the project will begin during the summer and fall of 2001. Actual levee upgrades and construction of interior levees will not begin until 2002.

If you have any questions or concerns regarding the CALFED process or the proposed construction project, please feel free to call.

Sincerely,

Olen Zirkle
Land and Water Specialist

DUCKS UNLIMITED, INC.
WESTERN REGIONAL OFFICE
3074 Gold Canal Drive
Rancho Cordova, California 95670-6116
(916) 852-2000
(916) 852-2200 Fax

DUCKS UNLIMITED INC.

May 11,2000

San Joaquin County
Community Development Department
Development Planning Division'
1810 East Hazelton Ave.
Stockton, CA 95205

Dear Sirs:

Ducks Unlimited is participating in this year's CALFED Proposal Solicitation Program for Ecosystem Restoration Projects and Programs. As stated in the Solicitation Package, we are required to notify the county in which our project is located and supply a copy of the proposal.

We are pleased to submit a copy of our proposal titled: "Delta Levee and Estuarine Habitat Demonstration Project on Little Mandeville Island". This proposal requests funds to set up a pilot demonstration project on Little Mandeville Island to document the costs associated with draining and restoring a previously flooded island to tidal and seasonal wetlands.

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If you have any questions or concerns regarding the CALFED process or the proposed construction project, please feel free to call.

Sincerely,

Olen Zirkle
Land and Water Specialist

DUCKS UNLIMITED, INC.
WESTERN REGIONAL OFFICE
3074 Gold Canal Drive
Rancho Cordova. California 95670-6116
(916)852-2000
(916) 852-2200 Fax

DUCKS UNLIMITED INC.

May 11,2000

Margit Aramburu, Executive Director
Delta Protection Commission
14215 River Road
P.O. Box 530
Walnut Grove, CA 95690

Dear Ms Aramburu:

Ducks Unlimited is participating in this year's CALFED Proposal Solicitation Program for Ecosystem Restoration Projects and Programs. As stated in the Solicitation Package, we are required to notify the county in which our project is located and supply a copy of the proposal.

We are pleased to submit a copy of our proposal titled: "Delta Levee and Estuarine Habitat Demonstration Project on Little Mandeville Island". This proposal requests funds to set up a pilot demonstration project on Little Mandeville Island to document the costs associated with draining and restoring a previously flooded island to tidal and seasonal wetlands.

If approved, work on final design, environmental compliance documentation and permitting implementation of the project will begin during the summer and fall of 2001. Actual levee upgrades and construction of interior levees will not begin until 2002.

If you have any questions or concerns regarding the CALFED process or the proposed construction project, please feel free to call.

Sincerely,

Olen Zirkle
Land and Water Specialist

Environmental Compliance Checklist

Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement.

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. ***Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. **Do** any **of** the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or **both?**

X
YES

_____
NO

2. If you answered yes to #1, identify the lead governmental agency for CEQA/NEPA compliance.

Reclamation District 2118
Lead Agency

3. If you answered no to **#1,** explain why CEQA/NEPA compliance is not required for the actions in the proposal.

N/A

4. If CEQA/NEPA compliance is required, describe how the project will comply with either or both **of** these laws. Describe where the project is in the compliance process and the expected date **of** completion.

Based on the more detailed information obtained from the levee inspection and the baseline survey work which will form the 1st priority for the project, appropriate environmental documents will be prepared. This will be bid as a subcontract. The document will include the use of the island as both habitat restoration and as a controlled recreational use area. Public outreach for the document will be handled for the District by Ducks Unlimited, Inc.. The estimated completion date for the document with public review is estimated to be by the end of the 1st quarter of year 2 of the contract.

5. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

X
YES

_____
NO

Only for the control monitoring sites information on which along with written permission for access will be provided within 30 days of the notification of approval. All of the restoration work will be done on or immediately adjacent to Little Mandeville Island. The land owners permission to access is attached.

If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification **of** the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access with **30** days of notification of approval.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL		
Conditional use permit	X	
Variance		
Subdivision Map Act approval		
Grading permit	X	(for outer levee only)
General plan amendment		
Specific plan approval		
Rezone		
Williamson Act Contract cancellation		
Other _____ (Please Specify)		
None required		
STATE		
CESA Compliance	X	(CDFG)
Streambed alteration permit	X	(CDFG)
CWA § **401** certification	X	(RWQ CB)
Coastal development permit		(Coastal Commission/BCDC)
Reclamation Board approval	X	(Approval Granted)
Notification		(DPC, BCDC)
Other _____ (Please Specify)		
None required		
FEDERAL		
ESA Consultation	X	**(USFWS)**
Rivers & Harbors Act permit		(ACOE)
CWA § **404** permit	X	(ACOE)
Other _____ (Please Specify)		
None required		

DPC = Delta Protection Commission
CWA = Clean Water Act
CESA = California Endangered Species Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. Army Corps of Engineers
ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC = Bay Conservation and Development Comm.

Land Use Checklist

Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement.

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. **Do** the actions in the proposal involve physical changes to the land (i.e. grading, planting vegetation, or breeching levees) **or** restrictions in land use (i.e. conservation easement **or** placement **of** Land in **a** wildlife refuge)?

   X
   YES NO

2. If **NO** to **#1,** explain what type of actions are involved in the proposal (i.e., research only, planning only).

   NIA

3. If **YES** to #1, what is the proposed land use change or restriction under the proposal?

   Levee restoration outer and inner and modification to outer levee to enhance habitat, cross levee and tidal island construction on the interior of the island: creation of the seasonal wetlands; conservation easement; work on the adjacent shoals.

4. If **YES** to #1, is the land currently under **a** Williamson Act contract?

   YES

5. **If** YES to **#1,** answer the following:

Current land use	Agricultural (but currently submerged)
Current zoning	Agricultural 40
Current general plan designation	Agricultural/Recreational

6. **If** YES to #1, is the land classified **as** Prime Farmland, Farmland **of** Statewide Importance or **Unique** Farmland on the Department of Conservation Important Farmland Maps?

   YES X NO DON'T KNOW

7. **If** YES to #1, how many acres **of** land will be subject to physical change or land use restrictions under the proposal?

   300 of the 350 acres

8. If YES to #1, is the property currently being commercially farmed or grazed?

_____ YES X NO (Zoned for agriculture currently flooded)

9. If YES to #8, what are: the number of employees/acre N/A
the total number of employees N/A

10. Will the applicant acquire any interest in land under the proposal (fee title or a conservation easement)?

X (Easement) YES _____ NO

11. What entity/organization will hold the interest?

American Wetland Trust or the Wetland Reserve Program of the USDA

12. If **YES** to #10, answer the following:

Total number of acres to be acquired under proposal: 350 acres
Number of acres to be acquired in fee:
Number of acres to be subject to conservation easement: 300 acres

13. For all proposals involving physical changes **to** the land or restriction in land use, describe what entity or organization will:

Manage the property: Landowner
Provide operations and maintenance service: Reclamation District/Landowner
Conduct monitoring: Ducks Unlimited, Inc.

14. For land acquisitions (fee title or easements), will existing water rights also be acquired?

_____ YES X NO

15. Does **the** applicant propose any modifications to the water right or change in the delivery of the water?

_____ YES X NO

16. If YES to #15, describe: N/A

STATE AND FEDERAL FORMS

Delta Levee and Estuarine Habitat Demonshation Project on Little Mandeville Island

STATE **FORMS:**

1. Nondiscrimination Compliance Statement – ATTACHED
   (for public, private and nonprofit applicants only)

2. Proof of Contractors License – ***(To*** be submitted when a Contractor **is** hired for this project)
   (for private and nonprofit applicants proposing construction projects)

3. Non-collusion Affidavit – ***(To*** be submitted when a Contractor **is** hired for this project)
   (for public, private and non-profit applicants proposing construction projects)

4. Bidders Bond - ***(To*** be submitted when a Contractor is hired for this project)
   (for private and non-profit applicants proposing construction projects)

5. Payment Bond - ***(To*** be submitted when a Contractor is hired for this project)
   (for private and non-profit applicants proposing construction projects)

6. Performance Bond - (To be submitted when a Contractor is hired for this project)
   (for private and non-profit applicants proposing construction projects)

FEDERAL **FORMS:**

1. Standard 424 – ATTACHED
   (for all applicants except federal agencies)

2. Assurances - Construction Programs - ATTACHED

STATE OF CALIFORNIA

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV. 3-95)

LITTLE MANDEVILLE ISLAND: Delta Levee and Estuarine Habitat Demonstration Project

COMPANY NAME

Ducks Unlimited, Inc.

The company named above (herinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division **4,** Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of **sex,** race, color, ancestry, .religious creed, national origin, physical disability (including HIV and AIDS), medical condition (cancer), age (over 40), marital status, denial of family care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I amfilly aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Ronald A. Stromstad

OATEEXECUTEO

4/26/00

EXECUTED IN THE COUNTY OF

Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

Director of Operations

PROSPECTIVECONTRACTOR'S LEGAL BUSINESSNAME

Ducks Unlimited, Inc.

APPLICATION FOR FEDERAL ASSISTANCE

OMB Approval No. 0348-0043

1. TYPE OF SUBMISSION: Application [X] Construction [ ] Non-Construction; Preapplication [ ] Construction [ ] Non-Construction	2. DATE SUBMITTED 5/15/00	Applicant Identifier N/A
	3. DATE RECENED BY STATE	State Application Identifier N/A
	4. DATE RECENED BY FEDERAL AGENCY	Federal Identifier

5. APPUCANT INFORMATION

Legal Name: Ducks Unlimited, Inc.	Organizational Unit: Western Regional Office
Address (*give city, county,* Stale. *and zip* de): 3074 Gold Canal Drive, Rancho Cordova, CA 95670	Name and telephone number of person to be contacted on matters involving this application (*give* area *code*): Olen Zirkle (916)852-2000

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 13-5643799

7. TYPE OF APPLICANT: *(enter appropriate* letter in *box)* [N]

A. State; B. County; C. Municipal; D. Township; E. Interstate; F. Intermunicipal; G. Special District; H. Independent School Dist.; I. State Controlled Institution of Higher Learning; J. Private University; K. Indian Tribe; L. Individual; M. Profit Organization; N. Other (Specify) Non-profit

8. TYPE OF APPLICATION:

[X] New [ ] Continuation [ ] Revision

If Revision. enter appropriate letter(s) in box(es) [ ] [ ]

A. Increase Award; B. Decrease Award; C. Increase Duration; D. Decrease Duration; Other (specify):

9. NAME OF FEDERAL AGENCY:

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: [ ][ ]-[ ][ ][ ]

TITLE

11. DESCRIPTIVE TITLE OF APPLICANTS PROJECT: Delta Levee and Estuarine Habitat Demonstration Project on Little Mandeville Island

12. AREAS AFFECTED BY PROJECT *(Cities,* Coonties. States, *etc.):* San Joaquin County

13. PROPOSED PROJECT: Start Date 4/1/01; Ending Date 3/31/04	**14.** CONGRESSIONAL DISTRICTS **OF:** Richard Pombo	a. Applicant 4th District	b. Project 11th District

15. ESTIMATED FUNDING:

a. Federal	$ 17,289,673 00
b. Applicant	$ 00
c. State	5 00
d. Local	$ M
e. Other	$ 00
f. Program Income	$ 00
g. TOTAL	5 17,289,673 W

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER **12372** PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE _____

b. NO. [ ] PROGRAM **IS** NOT COVERED BY E. **0.12372**
[ ] OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

[ ] Yes **If** "Yes," attach **an** explanation. [X] No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Type Name of Authorized Representative: Ronald A. Stromstad	b. Title: Director of Operations	c. Telephone Number: (916)852-2000
d. Signature of Authorized Representative		e. Date Signed: 5-30-00

Previous Edition Usable
Authorized for Local Reproduction

Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

BUDGET INFORMATION- Non-Construction Programs

OMB Approval *No.* 03484044

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Little Mandeville Island		$	$	$ 17,289,673	$	$ 17,289,673
2.						
3.						
4.						
5. Totals		$	$	$ 17,289,673	$	$ 17,289,673

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
a. Personnel	$ 320,656	$	$	$	$ 320,656
b. Fringe Benefits	64,131				64,131
c. Travel	56,600				56,600
d. Equipment	257,020				257,020
e. Supplies	198,000				198,000
f. Contractual	1,215,623				1,215,623
g. Construction	13,087,000				13,087,000
h. Other Graduate Student	66,000				66,000
i. Total Direct Charges *(sum of 6a-6h)*	15,265,030				15,265,030
j. Indirect Charges	2,024,643				2,024,643
k. TOTALS *(sum of 6i and 6j)*	$ 17,289,673	$	$	$	$ 17,289,673
7. Program Income	$	$	$	$	$

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SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. Little Mandeville Island Project	$ None	$ None	$ None	$ None
9.				
10.				
11.				
12. **TOTAL** *(sum of* **lines** 8-77)	$ **None**	$ **None**	$ **None**	$ **None**

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 1,246,452	$ 415,113	$ 277,113	$ 277,113	$ 277,113
14. **Non-Federal**					
15. TOTAL *(sum of lines 13 and 14)*	$ 1,246,452	$ 415,113	$ 277,113	$ 277,113	$ 277,113

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16. Year 2	$ 1,480,000	$ 4,000,000	$ 9,000,000	$ 434,208
17. Year 3	394,013	245,000	245,000	245,000
18.				
19.				
20. TOTAL *(sum of lines 16-19)*	$ 1,874,013	$ 4,245,000	$ 9,245,000	$ 679,208

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:	22. Indirect Charges:
$15,265,030	$2,024,643

23. Remarks:

OMB Approval No. 0348-0042

ASSURANCES - CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal interest in the title of real property in accordance with awarding agency directives and will include a covenant in the title of real property aquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.

4. Will comply with the requirements of the assistance awarding agency with regard to the drafting. review and approval of construction plans and specifications.

5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State.

6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681 1683. and 1685-1686), which prohibits discrimination on the basis of sex: (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied. with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Properly Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real properly acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514: (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 USC. §§1451 et seq.); (9 conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.): (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and. (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966. as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
for Ronald A. Stromstad	Director of Operations
APPLICANT ORGANIZATION	DATE SUBMITTED
Ducks Unlimited, Inc.	5-12-00

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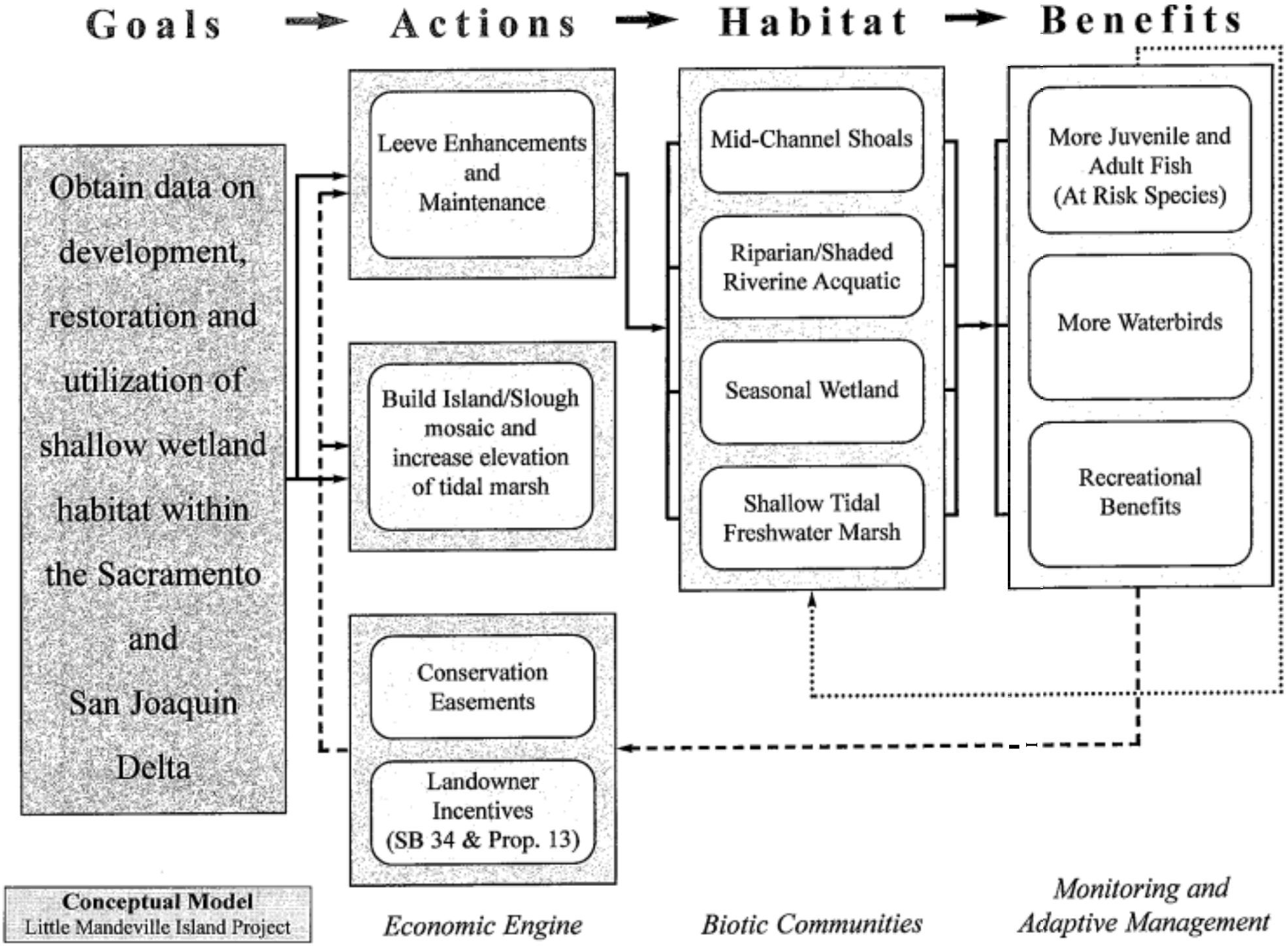

Conceptual Model
Little Mandeville Island Project

Attachment B

DUCKS UNLIMITED FY 2000 CALFED PROJECT PROPOSAL –
Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement

Year	Task	Task Description	Start/Finish Date	Linkage	Comment
	Task 1.0	Assess existing condition			
Year 1:	Subtask 1.1.1	Inspect and assess the existing levees as the baseline for the design, repair, and construction phases of the Project (includes geotechnical assessment)	April 1,2001 – June 30,2001		
	Subtask 1.1.2	Inspect and assess water control structure for condition and potential fisheries upgrades	April 1,2001 – June 30,2001		
	Subtask 1.1.3	Inspect habitat with emphasis on identifying exotics in need of eradication.	April 1,2001 – June 30,2001		
	Subtask **1.1.4**	Set up cost database and begin tracking project costs	July 1,2001 – August 31, 2001		
	Subtask 1.1.5	Prepare existing conditions report on levees, habitat and water control structures	April 1,2001		DELIVERABLE
	Subtask 1.1.6	Update existing survey data	April 1, 2001 – June 30, 2001		
	Task 2 .0	Preliminary design and planning			
	Subtask 2.1.1	Complete preliminary design for all exterior levee & cross levee construction	April 1, 2001 - August 31, 2001		
	Subtask 2.1.2	Complete preliminary design for interior habitat work (tidal islands and seasonal wetlands)	July 1, 2001 – December 31, 2001		
	Subtask 2.1.3	Complete preliminary design for levee enhancement and mid-channel shoals	September 1, 2001 – February 28, 2002		
	Subtask 2.1.4	Complete preliminary design for water control structures	July 1, 2001 – December 31, 2001		
	Subtask 2.1.5	Complete the conceptual plans for the controlled recreational use	June 1, 2001 – November 30, 2001		
	Subtask 2.1.6	Complete the environmental information documentation work for the environmental compliance documents for all restoration projects.	April 1, 2001 – August 31, 200		
	Subtask 2.1.7	Submit preliminary planning report	April 2002		DELIVERABLE
	Task 3.0	Final design, engineering, permitting and environmental documentation			
Year 1:	Subtask 3.1.1	Complete engineering & final design for exterior levee & cross levee construction	September 1, 2001 – March 31,2002		DELIVERALBE
	Subtask 3.1.2	Begin permitting process for exterior levee & cross levee construction	April 1,2001 – March 31,2002		
	Subtask 3.1.3	Begin the environmental compliance documentation for all phases of the project	September 1,2001		
	Subtask 3.1.4	Begin public outreach	April 1, 2001		

Attachment C

Year	Task	Task Description	Start/Finish Date		Comment
	Task 4.0 Task 4.0	Construction			
Year I:	Subtask 4.1.1	Prepare bidders package for exterior levee & cross levee construction	January 1,2002 – March 31,2002		Bids will go out April 1 of Year **2**
	Subtask 4.1.2	Begin exotic plant removal on levees	June 1- August 31, 2001		Arundo is a problem on the exterior levees
	Subtask4.1.3	Complete engineering and final design for water control structures	December 1, 2001- February 28,2002		
	Task 5.0	Monitoring			
Year 1:	Subtask 5.1.1	Perform baseline aerial photo survey and measure acreage of existing riparian vegetation.	May 2001		
	Subtask 5.1.2	Ground survey riparian vegetation. Develop species list, measure diversity, density, trunk size, & canopy height. Measure relative abundance of exotic and native vegetation.	May 2001		
	Subtask 5.1.3	Perform fish usage survey of flooded portion of island using block nets, beach seines, trap nets and light traps. Develop species list and measure relative abundance of exotic and native species.	April 1, 2001- September 2001		
	Subtask 5.1.4	Perform baseline fish usage survey of habitat along exterior levees, using boat electroshocker.	April 1,2001-March 31 2002		
	Subtask 5.1.5	Perform baseline bird and turtle usage survey of habitat along exterior levees, and flooded portion of island.	April 2001-April 2002		
	Task 6.0	Easement work			
Year 1:	Subtask 6.1.1	Develop the framework; finalize the acreage and configuration of easement.	April 1,2001 – June 30,2001		
	Subtask 6.1.2	Do appraisal, due diligence, and negotiate easement	July 1, 2001 – September 30,2001		
	Subtask 6.1.3	Close escrow and record.	December 25,2001		
Year 1:	Task 7.0	Project management	on-going		
	Subtask 7.1.1	Senior Management Oversight	On-going		
	Subtask 7.1.2	Project Engineer	On-going		
	Subtask 7.1.3	Project Manager	On-going		
	Subtask 7.1.4	Contract Compliance Officer	On-going		
	Subtask 7.1.5	Project Biologist	On-going		

Year 2:	Task 1.0	Assess existing condition			
	Subtask 1.2.1	Assess the overall project status	On-going		
	Subtask 1.2.2	Collect cost data and update tracking database, report findings	On-going		DELIVERABLE
Year 2:	Task 2.0	Preliminary design and planing			
	Subtask 2.2.1	Prepare CALFED Phase Two Proposal	Upon PSP Release		
Year 2:	Task 3.0	Engineering, final design, permitting and environmental documentation			
	Subtask 3.2.1	Complete engineering and final design for interior seasonal wetland habitat work	April 1, 2002 – August 31,2002		
	Subtask 3.2.2	Complete the environmental documentation and certification	July 1, 2002		
	Subtask 3.2.3	Complete permitting process for exterior levee & cross levee construction	April 1, 2002		
Year	Task	Task Description	Start/Finish Date	Linkage	Comment
	Subtask 3.2.4	Continue the public outreach	On-going		
Year 2:	Task 4.0	Construction			
	Subtask 4.2.1	Complete bid package and begin exterior levee & cross levee construction.	April 1, 2002 – March 31,2003		
	Subtask 4.2.2	Prepare bidders package for interior seasonal wetland habitat construction	October 1, 2002- January 1,2003		
	Subtask 4.2.3	Prepare bidders package for water control structures and island drainage	April 1-June 1,2002		
	Subtask 4.2.4	Install water control structures & drain the island	July 1,2002- March 31,2003		Install pumps and dewater
	Subtask 4.2.5	Construction management	On-going		
	Subtask 4.2.6	Continue exotic plant removal	As needed		Arundo Control
Year 2:	Task 5.0	Monitoring			
	Subtask 5.2.1	Continue fish usage survey of habitat along exterior levees, using boat electroshocker.	April 1,2002-March 31,2003		
	Subtask 5.2.2	Continue bird and turtle usage survey of habitat along exterior levees, and flooded portion of island.	April 1,2002-March 31,2003		
	Subtask 5.2.3	Perform baseline topographic survey, establish control sites on other islands	September 2002		
Year 2:	Task 6.0	Easement work			
	Subtask 6.2.1	Complete any open easement acquisition issues	January 1,2003 – March 31,2003		

	Subtask 6.2.2	Monitor easements	On-going		
Year 2:	Task 7.0	Project Management	On-going		
	Subtask 7.1.1	Senior Management Oversight	On-going		
	Subtask 7.1.2	Project Engineer	On-going		
	Subtask 7.1.3	Project Manager	On-going		
	Subtask 7.1.4	Contract Compliance Officer	On-going		
	Subtask 7.1.5	Project Biologist	On-going		
Year 3:	Task 1.0	Assess existing condition	On-going		
	Subtask 1.3.1	Evaluate the overall project status	On-going		
	Subtask 1.3.2	Collect cost data and update tracking databases; report findings	On-going		DELIVERABLE
	Subtask 1.3.3	Assess if adaptive management requires changes.	On-going		
	Task 3.0	Engineering, final design, and permitting			
Year 3:	Subtask 3.3.1	Complete engineering and final design for mid-channel shoals	September 30,2003		
	Subtask 3.3.2				
	Subtask 3.3.3	Continue public outreach	On-going		
Year	Task	Task Description	Start/Finish Date	Linkage	Comment
Year 3:	Task 4.0	Construction			
	Subtask4.3.1	Complete construction on exterior levee and cross levee	April 1,2003-March 31,2004		
	Subtask 4.3.2	Begin construction of seasonal wetland	May 1, 2003-September 30,2003		
	Subtask 4.3.3	Construction management	On-going		
	Subtask 4.3.4	Continue eradication of exotic plants	As needed		
	Subtask 4.3.5	Siphon water into seasonal wetland	October 1-October 31,2003		
Year 3:	Task 5.0	Monitoring			
	Subtask 5.3.1	Post-construction aerial photo survey	March 2004		
	Subtask 5.3.2	Monitor plant colonization of seasonal wetland	October 1, 2003-March 31,2004		
	Subtask 5.3.3	Continue fish usage survey of habitat along exterior levees, using boat electroshocker.	April I, 2003-March 3i, 2004		
	Subtask 5.3.4	Continue bird and turtle usage survey of habitat along exterior levees, and constructed wetland habitats	April 1,2003-March 31,2004		
	Subtask 5.3.5	Elevational survey of levees and constructed wetlands, and control sites on nearby islands	September 2003		
	Subtask 5.3.6	Initiate evapotranspiration monitoring of seasonal wetland and control sites on nearby islands	February 2004		
Year 3:	Task 6.0	Easement work			

	Subtask 6.3.1	Monitor Easements	On-going		
Year 3:	Task 7.0	Project Management	On-going		
	Subtask 7.1.1	Senior Management Oversight	On-going		
	Subtask 7.1.2	Project Engineer	On-going		
	Subtask 7.1.3	Project Manager	On-going		
	Subtask 7.1.4	Contract Compliance Officer	On-going		
	Subtask 7.1.5	Project Biologist	On-going		

DUCKS UNLIMITED FY 2000 CALFED PROJECT PROPOSAL -

Little Mandeville Island: A project to demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement

Table 1. Delta Levee and Estuarine Habitat Demonstration Project on Little Mandeville Island Annual and Total Budget

			Subject to Overhead						Exempt from Overhead		
Year	Task	Direct Labor Hours	Salary Including FICA	Benefits @ 20% of Salary	Travel	Staff Support &Supplies	Service Contracts	Overhead (13.55%)	Equipment	Graduate Student Fee Remission	Total Cost
Year 1	Task 1: Existing Conditions	375	$13,125	$2,625	$1,500	$6,750	$90,000	$15,447			$129,447
	Task 2: Preliminary Design	188	$6,580	$1,316	$800	$3,384	$18,000	$4,076			$34,156
	Task 3: Final Design/env./permits	112	$3,920	$784	$600	$2,016	$85,000	$12,509			$104,829
	Task 4: Construction	75	$2,625	$525	$300	$1,350	$45,000	$6,748			$56,548
	Task 5: Habitat Monitoring	1880	$41,360	$8,272	$15,600	$33,840	$243,750	$46,452	$118,020	$20,000	$527,294
	Task 6: Conservaton Easement	300	$10,500	$2,100	$300	$5,400	$264,000	$38,252			$320,552
	Task 7: Project Management	1100	$37,200	$7,440	$400	$19,800		$8,786			$73,626
Total Cost Year 1			$115,310	$23,062	$19,500	$72,540	$745,750	$132,270	$118,020	$20,000	$1,246,452
Year 2	Task 1: Existing Conditions						$5,000	$678			$5,678
	Task 2: Preliminary Design	188	$6,580	$1,316	$600	$3,384	$5,000	$2,287			$19,167
	Task 3: Final Design/env./permits	375	$13,125	$2,625	$1,200	$6,750	$85,000	$14,729			$123,429
	Task 4: Construction	187	$6,545	$1,309	$600	$3,366	$12,657,000	$1,716,625			$14,385,445
	Task 5: Habitat Monitoring	1664	$38,732	$7,746	$16,000	$30,312	$140,431	$31,601	$13,000	$22,000	$299,823
	Task 6: Conservaton Easement	100	$3,500	$700	$200	$1,800		$840			$7,040
	Task 7: Project Management	1100	$37,200	$7,440	$400	$19,800		$8,786			$73,626
Total Cost Year 2			$105,682	$21,136	$19,000	$65,412	$12,892,431	$1,775,546	$13,000	$22,000	$14,914,208
Year 3	Task 1: Existing Conditions						$5,000	$678			$5,678
	Task 2: Preliminary Design	75	$2,625	$525	$100	$1,350		$623			$5,223
	Task 3: Final Design/env./permits	300	$10,500	$2,100	$1,100	$5,400	$130,000	$20,203			$169,303
	Task 4: Construction	375	$13,125	$2,625	$1,200	$6,750	$385,000	$55,379			$464,079
	Task 5: Habitat Monitoring	1436	$34,464	$6,893	$15,200	$25,848	$144,442	$30,738	$126,000	$24,000	$407,585
	Task 6: Conservaton Easement	50	$1,750	$350	$100	$900		$420			$3,520
	Task 7: Project Management	1100	$37,200	$7,440	$400	$19,800		$8,786			$73,626
Total Cost Year 3			$99,664	$19,933	$18,100	$60,048	$664,442	$116,826	$126,000	$24,000	$1,129,013
Total Project Cost			$320,656	$64,131	$56,600	$198,000	$14,302,623	$2,024,642	$257,020	$66,000	$17,289,673

Attachment D

Attachment E

STATEMENT OF QUALIFICATIONS

Ducks Unlimited, Inc. Staff:

Olen C. Zirkle, Jr. Mr. Zirkle brings a diverse background to Ducks Unlimited. Educated at U.C. Davis, eaming a Bachelor of Science degree in Ag-Production/Agronomy, he has spent a lengthy career working with agriculture on operational and management issues. Mr. Zirkle is currently employed by Ducks Unlimited as an Agricultural Lands and Water Specialist where he manages both the Lower Butte Creek Project and the Sutter Basin Agricultural Easement Project. He recently completed a three and one-half year contract with The Nature Conservancy where he managed their Ricelands Habitat Project and initiated and implemented Phase I of the Lower Butte Creek Project. Mr. Zirkle may be reached at the Western Regional Office at 3074 Gold Canal Drive, Rancho Cordova CA 95670-6116; Ph:(916) 852-2000; Fax:(916) 852-2200; e-mail: ozirkle@ducks.org.

Relevant Experience

Mr. Zirkle has spent his entire career working in agriculture in managerial and technical positions. Educated as an agronomist, he worked for 16 years with Spreckels Sugar Company as a field superintendent and agricultural property manager. Subsequently, he managed grain marketing and storage cooperative comprised of 800 farmer members in Southeastern Arizona. In one of his most recent activities, he managed and marketed the foreclosed properties for the western office of the Federal Land Bank. Mr. Zirkle is a licensed real estate broker, and has extensive training and expertise in agricultural property appraisal. Since 1995, Mr. Zirkle has worked extensively on fish passage issues. He currently manages the Lower Butte Creek Project which is a landowner driven process that brings farmers, wetland managers and resource agencies together to resolve fish passage issues along Butte Creek, a native spring-run chinook salmon spawning stream.

James R. Well Mr. Well brings an engineering and construction background to Ducks Unlimited, Inc. (DU). Educated at North Dakota State University, earning a Bachelor of Science degree in Civil Engineering, he has spent a career working in design, construction and construction management of civil works in twelve central and western states. Mr. Well is currently employed by DU as a lead Regional Engineer for the state of California. Mr. Well supervises three other engineers and manages the habitat restoration activities in California. Mr. Well can be reached by mail at Ducks Unlimited, Inc.'s Western Regional Office, located at 3074 Gold Canal Drive in Rancho Cordova, CA 95670-6116; Phone:(916)852-2000; Fax:(916)852-2200; e-mail:jwell@ducks.org

Relevant Experience

Mr. Well has spent his entire career working in construction in technical and managerial positions. Educated as a civil engineer, he spent two years in the United States Army serving in the Corps of Engineers as an engineer and platoon leader in Viet Nam. Fifteen years were spent with private construction firms in design and construction management of Highway and Heavy projects in the states of North Dakota, South Dakota, Montana, Wyoming and Utah. He was responsible for projects that included the Interstate Highway system, state highway systems, county road systems, the Garrison Diversion Project, earth filled dams, railroad subgrades, coal-fired power plant site-work, coal mine overburden removal, river erosion protection, flood control levees, subdivision site grading, water line and sewer line installation and aggregate production.

Mr. Well has been with DU for over fourteen years and during that time has had direct design and construction management responsibility for hundreds of habitat restoration projects involving thousands of acres and agreements worth millions of dollars. These projects have occurred on both private and public land and consist of survey, design, issuance of competitive or negotiated bids for construction, construction management and coordinate funding partners, consultants, contractors, regulatory agencies, owners and other Ducks Unlimited staff.

J. Jasper Lament Dr. Lament brings specialized expertise in the ecology of brackish and tidal systems to Ducks Unlimited. Educated at the University of Miami and Queen's University (Canada), earning a Ph.D. in Biology and a Bachelor of Science (Honors) in Biology and Geography, he has extensive training and experience in the biology of fish, waterbirds, and wetlands. Dr. Lament's doctoral research focussed on the ecology of an exotic fish species in the Florida Everglades. Dr. Lament is currently employed by Ducks Unlimited as a Regional Biologist where he is involved in wetlands restoration projects in San Diego and San Francisco Bays. He is Ducks Unlimited's primary tidal wetland biologist for the California coast, with a focus on tidal wetland restoration. His geographic responsibilities include Suisun Marsh, San Pablo, and San Francisco Bays. Dr. Lament may be reached at the Western Regional Office at 3074 Gold Canal Drive, Rancho Cordova CA 95670-6116; Phone: (916) 852-2000; Fax: (916) 852-2200; e-mail: jlament@ducks.org.

Revelant Experience

Dr. Lament has spent his entire career working in the biology of aquatic systems, exotic species, restoration biology, Suisun Marsh. He has participated in field biology research at remote sites in Canada, the United States and Costa Rica. He has been involved in field research in both fish and seabird biology. Dr. Lament taught advanced university courses in biology and marine science for six years at the University of Miami. He has presented academic papers and posters at meetings of the American Society of Ichthyologists and Herpetologists, American Fisheries Society, Fisheries Society of the British Isles, and at the 2nd International Fish Otolith Symposium. Dr. Lament has received research awards from American Society of Ichthyologists and Herpetologists, American Cichlid Association, Society of Wetland Scientists and the University of Miami.

Peter Bontadelli Mr. Bontadelli brings a strong environmental policy and technical compliance background to assist in Ducks Unlimited, Inc. projects. Mr. Bondtadelli holds a Bachelor of Science degree in Political Science from and U.C. Davis. Mr. Bontadelli consults for PFB & Associates which he formed in 1991 and serves as President. He currently consults for Ducks Unlimited, Inc. on a varied of projects. Mr. Bontadelli may be reached at PFB & Associates, 4141 Palm #581, Sacramento, CA 95842; Phone: (916) 332-6354; Fax: (916) 332-6354; e-mail: bontadelli@,mailcitv.com

Revelant Experience

National Academy of Science - 3 publications, OPA 90 (Oil Pollution Act 1990 - amendment to Clean Water Act),Tanker Design, Mitigation Issues, Salvage Posture, State of California: Administrator Office of Spill Prevention & Response 1992-1999, Director of Fish & Game 1987–1991, Chief Deputy Director Fish & Game 1985–1987, Special Assistant to Director of Fish & Game 1985–1985, International Association of Fish & Wildlife Agencies, Water Committee, Chair 1985-1992, Pacific Fisheries Management Council, State of California Council Seat 1987-1991, U.S. Coast Guard, Member of the Coast Guard Regulation Negotiation Committee 1992, U.S. Fish & Wildlife Service, Pacific Flyway Council, Chairman 1987 – 1991, Advisory to USFWS in setting national migratory bird hunting regulations. U.S. Dept. of Interior, National American Wetlands Council, Charter Member 1989 – 1991, Responsible for setting policy and oversee implementation of the North American Wetlands Act

KJELDSEN, SINNOCK & NEUDECK, INC.

Kjeldsen, Sinnock & Neudeck, Inc. (KSN), is a full service civil engineering and land surveying firm specializing in the planning, design and construction of municipal, public works water resources and environmental related projects. The firm has the expertise and capability to handle all phases of project development, from initial planning and site surveying through design and construction, and on to maintenance and operation of the completed project.

KSN and its predecessor firm, Darrhl I. Dentoni & Associates, have been providing civil engineering and surveying services to public and private clients throughout California's Central Valley for over 35 years. The firm currently serves as consultants to over thirty communities, special districts, and local public agencies in the San Joaquin County, foothill and Delta areas.

The firm presently maintains a staff of twenty one which includes four Registered Civil Engineers, two Licensed Land Surveyors, four Land Surveyors in Training, an Agronomist and additional project management, technical support and field staff. KSN is committed to staying current with the rapidly changing technology in our dynamic profession, including new and environmentally friendly construction products, techniques and procedures.

PREVIOUS CALFED AND CVPIA FUNDING

Project Name:	CALFED Number:	Financial Status		Current Status
Lower Butte Creek Project: Phase II – Preliminary Engineering and Environmental Analysis for Butte Sink Structural Modifications and Flow-through System	99-BO2	Expenditure: Income: Ducks Unlimited Inc.:	$35,549.83 $25,621.22 $9,928.61	Ongoing Consultants hued Kick off meeting completed Field work on design in progress
Gorrill Dam Fish Screen	96-M22	Expenditure: Income: Ducks Unlimited Inc.:	$1,548,907.86 $1,523,047.43 $25,860.43	Monitoring
M & T/Parrott, Pumping Station and Fish Screen	95-M05	Expenditure: Income: Ducks Unlimited Inc.:	$4,749,845.92 $4,530,556.71 $219,289.21	Complete
Rancho Esquon/Adamas Dam Fish Screen	96-M21	Expenditure: Income:. Ducks Unlimited Inc.:	$1,151,326.33 $1,034,780.62 $116,545.71	Monitoring

Project Name:	CVPIA Number:	Financial Status		Current Status
Lower Butte Creek Project, Phase III – Butte Creek, Drumheller Exclusion Barrier Final Engineering, Permitting and Construction	1448-11332-9J006	Expenditure: Income: Ducks Unlimited Inc.:	$0 $0 $0	Engineering Consultant hued Field work in progress
Lower Butte Creek Project, Phase I1 – Butte Creek, Butte Sink/Sutter Bypass Stakeholder Coordination/Facilitation	113329-9-J135	Expenditure: Income: Ducks Unlimited Inc.:	$44,419.82 $44,436.11 $16.29	Ongoing
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass East-West Diversion Dam Preliminary Engineering and Environmental Review	113329-9-J122	Expenditure: Income: Ducks Unlimited Inc.:	$145,667.45 $107,074.95 $38,592.50	Preliminary designs complete Environmental review started
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass Weir #5 Preliminary Engineering and Environmental Review	11332-9-J122	Expenditure: Income: Ducks Unlimited Inc.:	$145,667.45 $107,074.95 $38,592.50	Preliminary designs complete Environmental review started
Lower Butte Creek Project, Phase II – Butte Creek, Sutter Bypass Weir #5 Preliminary Engineering and Environmental Review	113329-9-J136	Expenditure: Income: Ducks Unlimited Inc.:	$145,667.45 $107,074.95 $38,592.50	Preliminary designs complete Environmental review started

Attachment F